

PRELIMINARY AMENDMENT  
Cont. Application of 09/870,679  
ATTORNEY DOCKET NO. Q79376

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original) A method for preparing a stimulable phosphor sheet comprising a support and a stimulable phosphor layer deposited thereon which comprises applying an electron beam to a stimulable phosphor or a source thereof in a vacuum to vaporize the phosphor or the source and depositing the vaporized phosphor or source on the support, wherein the stimulable phosphor or source to be vaporized is in the form of a solid having a relative density in the range of 80% to 98%.
2. (original): The method of claim 1, wherein the relative density of the solid is in the range of 90% to 96%.
3. (original): The method of claim 1, wherein the solid of stimulable phosphor or source is in the form of pellet which has been prepared by compressing a corresponding phosphor or source.
4. (original): The method of claim 1, wherein the electron beam is applied to the stimulable phosphor or source thereof at an accelerating voltage in the range of 1.5 kV to 5.0 kV.
5. (original): The method of claim 1, wherein the stimulable phosphor or source to be vaporized is a stimulable alkali metal halide phosphor having an essential composition of the formula (1):



PRELIMINARY AMENDMENT  
Cont. Application of 09/870,679  
ATTORNEY DOCKET NO. Q79376

in which M<sup>I</sup> represents at least one alkali metal selected from the group consisting of Li, Na, K, Rb and Cs; M<sup>II</sup> represents at least one divalent metal selected from the group consisting of Be, Mg, Ca, Sr, Ba, Ni, Cu, Zn and Cd; M<sup>III</sup> represents at least one trivalent metal selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Cdr Tb, Dy, Ho, Er, Tkn, Yb, Lu, Al, Ga and in each of X, X' and X" independently represents at least one halogen atom selected from the group consisting of F, Cl, Br and I; A represents at least one metal selected from the group consisting of Y, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Na, Mg, Cu, Ag, T1 and Bi; and each of a, b and z is a number respectively satisfying of the conditions of  $0 \leq a < 0.5$ ,  $0 \leq b < 0.5$ ,  $0 \leq z < 0.2$ .

6. (original): A method for preparing a stimulable phosphor sheet comprising a support and a stimulable phosphor layer deposited thereon which comprises applying an electron beam to a stimulable phosphor or a source thereof in a vacuum to vaporize the phosphor or the source and depositing the vaporized phosphor or source on the support, wherein the electron beam is applied to the stimulable phosphor or source thereof at an accelerating voltage in the range of 1.5 kV to 5.0 kV.

7. (original): The method of claim 6, wherein the accelerating voltage of electron beam is in the range of 2.0 kV to 4.0 25 kV.

8. (original): The method of claim 6, wherein the stimulable phosphor or source to be vaporized is a stimulable alkali metal halide phosphor having an essential composition of the formula (1):



PRELIMINARY AMENDMENT

Cont. Application of 09/870,679

ATTORNEY DOCKET NO. Q79376

in which M<sup>I</sup> represents at least one alkali metal selected from the group consisting of Li, Na, K, Rb and Cs; M<sup>III</sup> represents at least one divalent metal selected from the group consisting of Be, Mg, Ca, Sr, Ba, Ni, Cu, Zn and Cd; M<sup>III</sup> represents at least one trivalent metal selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Th, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga and in, each of X, X' and X" independently represents at least one halogen atom selected from the group consisting of F, Cl, Br and T; A represents at least one metal selected from the group consisting of Y, Ce, Pr, Nd, Sm, Eu, Gd, Th, Dy, Ho, Er, Tm, Yb, Lu, Na, Mg, Cu, Ag, Tl and Bi; and each of a, b and z is a number respectively satisfying the conditions of  $0 \leq a < 0.5$ ,  $0 \leq b < 0.5$ ,  $0 \leq z < 0.2$ .

9. (original): A method for preparing a stimulable phosphor sheet comprising a support and a stimulable phosphor layer deposited thereon which comprises applying an electron beam to a stimulable phosphor or a source thereof in a vacuum to vaporize the phosphor or the source and depositing the vaporized phosphor or source on the support, wherein the support is heated by a thermal energy supplied by a heating means when the vaporized phosphor or source is deposited and, after the deposition is complete, the supply of thermal energy from the heating means to the support is gradually reduced to cool the support gradually.

10. (original): The method of claim 9, wherein the support is cooled at a rate in the range of 1°C/min. to 20°C/min.

11. (original): The method of claim 9, wherein the electron beam is applied to the stimulable phosphor or source thereof at an accelerating voltage in the range of 1.5 kV to 5.0 kV.

PRELIMINARY AMENDMENT  
Cont. Application of 09/870,679  
ATTORNEY DOCKET NO. Q79376

12. (original): The method of claim 9, wherein the stimulable phosphor or source to be vaporized is in the form of a solid having a relative density in the range of 80% to 98%.

13. (original): The method of claim 12, wherein the electron beam is applied to the stimulable phosphor or source thereof at an accelerating voltage in the range of 1.5 kV to 5. kV.

14. (original): The method of claim 9, wherein the stimulable phosphor or source to be vaporized is a stimulable alkali metal halide phosphor having an essential composition of the formula (1):



in which  $M^I$  represents at least one alkali metal selected from the group consisting of Li, Na, K, Rb and Cs;  $M^{II}$  represents at least one divalent metal selected from the group consisting of Be, Mg, Ca, Sr, Ba, Ni, Cu, Zn and Cd;  $M^{III}$  represents at least one trivalent metal selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Sly, Ho, Er, Tm, Yb, Lu, Al, Ga and In, each of  $X$ ,  $X'$  and  $X''$  independently represents at least one halogen atom selected from the group consisting of F, Cl, Br and I;  $A$  represents at least one metal selected from the group consisting of Y, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Na, Mg, Cu, Ag, Tl and Bi; and each of  $a$ ,  $b$  and  $z$  is a number respectively satisfying the conditions of  $0 \leq a < 0.5$ ,  $0 \leq b < 0.5$ ,  $0 \leq z < 0.2$ .

15. (original): A stimulable phosphor sheet comprising a support and a vapor deposited stimulable phosphor layer, and a protective film, wherein the support has a frame unitedly protruded from a circumference of the support, the phosphor layer is enclosed with the frame, and the protective film is airtightly sealed to the frame.

PRELIMINARY AMENDMENT

Cont. Application of 09/870,679

ATTORNEY DOCKET NO. Q79376

16. (original): The stimulable phosphor sheet of claim 15, wherein the support is made of quartz or metal.

17. (original): The stimulable phosphor sheet of claim 15, wherein the protective film is made of a silicate glass deposited on the phosphor layer.

18. (currently amended): The ~~method~~ stimulable phosphor sheet of claim 15, wherein the stimulable phosphor is a stimulable alkali metal halide phosphor having an essential composition of the formula (1):



in which  $M^I$  represents at least one alkali metal selected from the group consisting of Li, Na, K, Rb and Cs;  $M^{II}$  represents at least one divalent metal selected from the group consisting of Be, Mg, Ca, Sr, Ba, Ni, Cu, Zn and Cd;  $M^{III}$  represents at least one trivalent metal selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga and In; each of  $X$ ,  $X'$ , and  $X''$  independently represents at least one halogen atom selected from the group consisting of F, Cl, Br and I;  $A$  represents at least one metal selected from the group consisting of Y, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Na, Mg, Cu, Ag, Tl and Bi; and each of  $a$ ,  $b$  and  $z$  is a number respectively satisfying the conditions of  $0 \leq a < 0.5$ ,  $0 \leq b < 0.5$ ,  $0 \leq z < 0.2$ .

19. (original): A method for preparing a stimulable phosphor sheet of claim 15, comprising the steps of:

applying an electron beam to a stimulable phosphor or a source thereof in a vacuum to vaporize the phosphor or the source and depositing the vaporized phosphor or source on a

PRELIMINARY AMENDMENT  
Cont. Application of 09/870,679  
ATTORNEY DOCKET NO. Q79376

support having a frame unitedly protruded from a circumference of the support in the area surrounded by the frame, and

providing a protective film on the phosphor layer and the frame of the support so as to airtightly seal a space surrounded by the frame.

20. (original): The method of claim 19, wherein the electron beam is applied to the stimulable phosphor or source thereof which is in the form of a solid having a relative density in the range of 80% to 98%, at an accelerating voltage in the range of 1.5 kV to 5.0 kV.